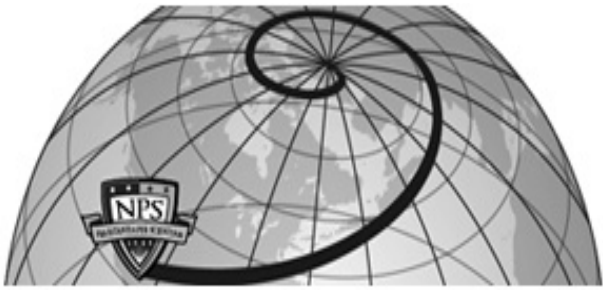



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# Illegal Timber Exploitation and Counterinsurgency Operations in Kunar Province of Afghanistan: A Case Study Describing the Nexus Among Insurgents, Criminal Cartels, and Communities Within the Forest Sector

HARRY R. BADER[1], CLINT HANNA[2], CLINT DOUGLAS[3], and JOHN D. FOX[4]

[1]*Office of the Vice Chancellor for Research, University of Alaska Fairbanks, Fairbanks, Alaska, USA*
[2]*Naval Postgraduate School, Monterey, California, USA*
[3]*Department of Defense, Washington, DC, USA*
[4]*Professor Emeritus, Department of Forest Sciences, University of Alaska Fairbanks, Fairbanks, Alaska, USA*

*The forest of eastern Afghanistan consists of two primary types; a low elevation broadleaf forest of evergreen oak, and a high elevation conifer forest. The average Afghan is dependent upon the oak forest for the daily necessities of fuelwood and fodder. The conifer forest provides prized deodar cedar as a commercial product enriching criminal syndicates and insurgent organizations. The study makes five general findings. First, the role of timber revenue as a source of hard currency for insurgent organizations is increasing. Second, the illegal timber trade poses a direct threat to successful counterinsurgency operations. Third, the timber trade*

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Bader, Hanna, and Douglas were the principal leadership of the Natural Resources Counterinsurgency Cell (NRCC) in eastern Afghanistan, established under Task Force Mountain Warrior (TFMW). The NRCC operated from February 2010 through May 2011 in Kunar, Nangarhar, Laghman, and Nuristan Provinces. Its first commanding officer was MAJ Clint Hanna, TFMW Civil Affairs S-9. The mission of the NRCC was to deny insurgents access to human and financial capital derived from the exploitation of natural resources. Bader and Douglas were the co-team leaders of the cell throughout the duration of its existence and were responsible for mission implementation and tactical operations.

Address correspondence to Harry R. Bader, Office of the Vice Chancellor for Research, University of Alaska Fairbanks, PO Box 757270, 909 Koyukuk Drive, Fairbanks, AK 99775, USA. E-mail: hrbader@alaska.edu

*is a complex web involving interactions of the Afghan government, insurgent organizations, and local communities. Fourth, smuggling disruption by international coalition forces alienates the local population and can be counterproductive. Fifth, natural forest ecosystems in Afghanistan are experiencing accelerated disturbance from timber harvest since insurgents began taking over the illegal timber trade.*

*KEYWORDS* Cedrus deodara, *illegal logging, northwestern Himalaya*

## INTRODUCTION

The academic, military, and international development communities have long recognized the linkage between the exploitation of natural resources and generation of revenue by insurgent and criminal organizations (Le Billon 2001). Indeed, the U.S. government has developed programming specifically to address these issues in its development policies under The U.S. Agency for International Development (USAID, 2005a, 2005b, 2005c). In the academic literature, however, little has been written that describes, in operational detail, the activities of an insurgent-based resource extraction syndicate.

This article presents a case study drawn from the unclassified experiences of the Natural Resources Counterinsurgency Cell (NRCC) in Afghanistan. The NRCC was a joint military/civilian unit that was tasked with denying insurgents access to human and financial capital derived from the exploitation of natural resources in eastern Afghanistan. Timber is the primary resource addressed in this case study. It is hoped that this article, through its detailed description of how an illegal timber network operates, with its linkages to traditional community dynamics, corrupt government officials, criminal cartels and insurgent organizations, will provide a broader understanding for international institutions battling illegal resource exploitation.

Studies by the Wildlife Conservation Society under USAID funding confirm that northeastern Afghanistan is the most heavily forested region in the country (Delattre & Rahmani, 2007). The forest of eastern Afghanistan consists of two primary forest types; a broadleaf forest of evergreen oak, and a high elevation conifer forest (Delattre & Rahmani, 2007). NRCC found it essential, when evaluating the utilization of forests and the impact upon the delivery of ecological services and economic benefits, to address each of the two forests as distinctly different in their role within Afghan society (NRCC, 2010). The involvement of organized crime, corrupt Afghan government officials, and insurgents, as well as the networks that support them, are markedly different for the oak forest verses the conifer forest type.

In eastern Afghanistan, the average resident is most dependent upon the oak forest, and it is the oak ecosystem that has been most extensively altered by anthropogenic disturbance. The conifer forests are the more commercially valuable forests and are controlled by illegal smuggling networks.

## METHODS

This article is a "case study" approach to research, and employs a systematic sampling effort to obtain biophysical data on the conifer forest component of selected parts of Kunar Province. It also includes interviews and first hand observations. The authors acknowledge significant deficiencies with respect to formal hypotheses testing and scientific sampling protocols. These shortfalls were necessitated by the exigencies of combat and the attendant lack of control, access, and time. Initially, the authors had no intention of producing a document such as this. Their research was designed to produce policy recommendations for real-time execution within a fluid and contested battle space. As such, the rigor and methodology applied was solely to ascertain ground truth and provide United States military commanders with reasonable policy recommendations. Kunar Province has been and remains one of the most violent and contested provinces within Afghanistan making traditional research methods all but impossible. Despite these limitations, the effort and methods used were more intense and systematic than any previous attempt during the current Afghanistan War which began in 2001.

The information necessary for this case study included a reconnaissance of timber resources and a tracking of the harvest and flow of wood products and human transactions involved in those activities. Overall, the data obtained by the NRCC were the products of: (a) low-level, helicopter over-flights (approximately 200 m above tree top) in the form of parallel flight-lines that were typically 1–2 km apart with high resolution photographs taken approximately every 100–200 m once over the target area; (b) dismounted foot patrols with U.S. military personnel to obtain ground truth and collection of additional observation data; (c) use of imagery from unmanned aerial vehicles (UAVs); (d) interviews with timber exploitation operators; and (e) debriefs with U.S. Army soldiers operating out of combat outposts (COPs) in areas of forest cover.

Approximately 2,000 helicopter-based photographs were taken along a forest belt in Kunar Province during over flights of the Chapa Dara, Pech, Chowkay, Narang, Nur Gal, and Asadabad districts encompassing the Korengal, Narang, Pech, Shuryak and other smaller valleys (See Figure 1). Change in forest cover was determined by comparing transects flown in 2010 and 2011.

NRCC generated an estimate of the extent and distribution of conifer forest cover in Kunar through the synthesis of data from its helicopter transects,

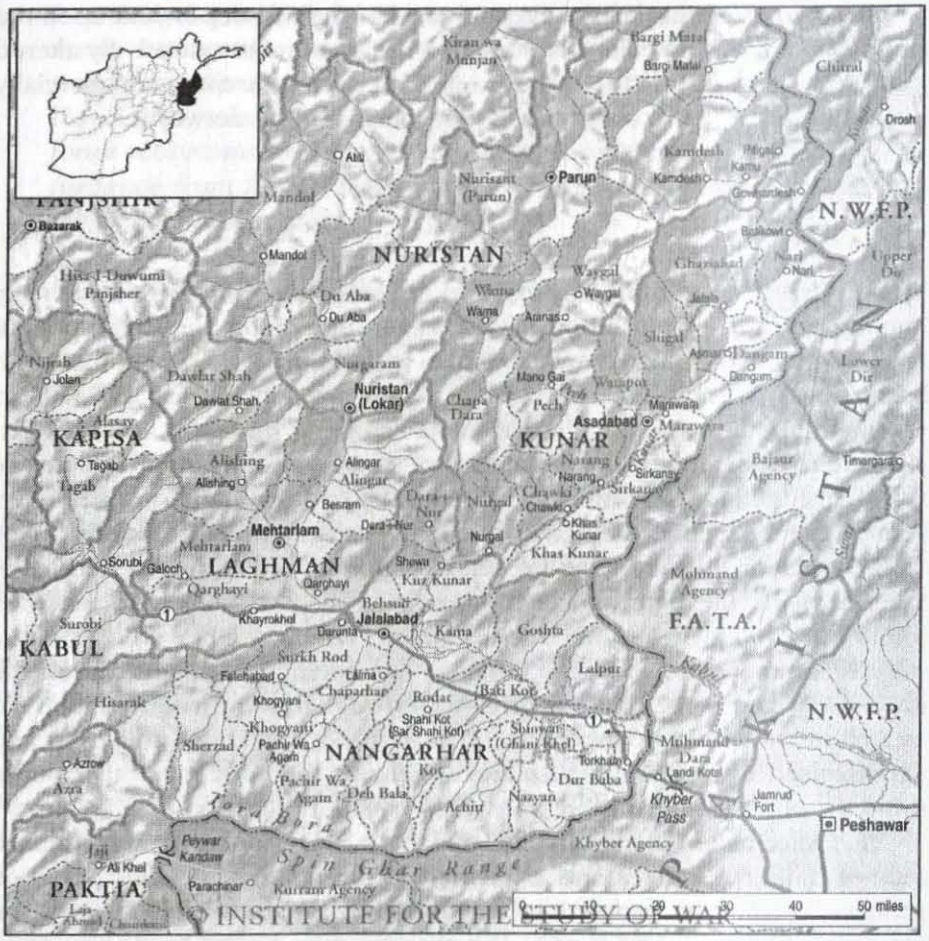


**FIGURE 1** Valleys and districts of Kunar Province, Afghanistan (Source:http://www.understandingwar.org/sites/default/files/KunarNuristan_Largecpy.jpg) (color figure available online).

UAV photos, groundbased observations, and topographical map-derived approximations of suitable habitat. Habitat suitability was determined to exist in bands most likely between the elevations of 2,000 and 3,000 m, on slopes with northerly or easterly aspects, and within the monsoon influenced snow-belt parallel with the Pakistan border.

The authors based much of their initial findings from debriefings with a prominent smuggler who worked with the NRCC as a confidential informant. This informant's detailed and granular reconstructions regarding operations were then tested by NRCC through direct field inspection and interviews with other parties during U.S. Army patrols in which NRCC participated. Timber smuggling descriptions were also developed from conversations with Afghan chartered natural resource-oriented non-governmental organizations

(NGOs), physical inspection of wood processing facilities by NRCC, and after-action reviews with U.S. and allied soldiers.

## RESULTS AND DISCUSSION

### Forests of Kunar Province

Oak trees feed livestock as farmers lop the branches and leaves for fodder. Oak and juniper heat homes in city and countryside alike. Oak is the fuel for cooking food at the family hearth. Many Afghans refer to this forest as the "forest of life" because without these trees, life as it is practiced in much of the area would be impossible (Waldman, 2007). The primary species observed by NRCC in this forest belt are *Quercus baloot* (baloot) and *Quercus dilatata* (brown oak). Located at an elevation band of 1,200–2,500 m, the mixed oak forests are in closest proximity to human settlement and are under continuous pressure. NRCC observations concluded that the baloot oak forest experienced the greatest level of harvest and the lowest level of regeneration due to livestock grazing, farmland conversion, and repeated cutting. Its vulnerability derives from the demand for it in everyday subsistence use and the relative ease of access for exploitation that its lower elevation permits. Moreover, decades of continuous warfare has undermined indigenous knowledge of sustainable forestry practices (NRCC, 2010). Thadani and Ashton (1995) observed a similar lack of effective regeneration within the banj oak (*Quercus leucotrichophora*) belt of the central Himalayan Mountains which was attributable to excessive grazing, fuelwood harvest, and lopping. However, in their study, they found that moderate disturbance levels, which opened canopy cover, resulted in adequate oak regeneration. It is assumed that the oak forest belt in Afghanistan may respond similarly. Their findings may prove instructive for Afghanistan when hostilities subside to the point to which management regimes can be re-established.

The majority of oak fuelwood harvesters are very small enterprises that provide wood to local villages or individual farmers. In general, oak harvest is either for a domestic Afghan market or for subsistence. A few contractors do operate fuelwood transport systems that provide for the more lucrative markets in Kabul and other large cities (NRCC, 2010).

Among the limited number of networks that specialize in the fuelwood market for Kabul, Jalalabad, and other major cities, the operators usually pay a group of village leaders to harvest a nearby mountainside. Most often oak fuelwood is cut by customary management schemes in which villages control access and volume for extraction. Local communities keep competing villagers away from "their mountain" (NRCC, 2010). Even though the harvest of oak is extensive, and oak deforestation is significant, insurgent linked networks did not get involved in the fuelwood trade prior to 2011 because the monetary value was too low to warrant the investment (NRCC, 2011a).

Clear-cutting continues to be the most prevalent form of harvest in the oak forest observed by the NRCC. This observation seems to be logical because of the low capitalization of the fuelwood industry. Almost all harvesting is accomplished by hand with an axe or buck saw. As a consequence it is only natural that a fuelwood cutter would want to cut as many trees in close proximity to one another as possible to ensure time, effort, and transport efficiency.

It is interesting to note that small scale localized conflict among villages tends to be more prevalent over oak harvest than over commercial conifers. This may stem from the fact that operators are probably small enough, and have parity with one another, such that no one village or entity can create a cartel or local monopoly. In addition, it is likely that many individual villages lack the capacity to aggressively confront the well-organized criminal syndicates or insurgent forces for the more lucrative conifer timber resource.

NRCC found the current oak harvest industry to be a decentralized race to exploitation and ruin. Even stumps and large belowground roots are removed for the wood contained. Other anthropogenic disturbances include intensive overgrazing by goats and sheep of the understory, inhibiting regeneration. Deforestation, and the attendant soil erosion, water quality degradation, floods, and drought, haunts the lower reaches of the mountains as a result of the widespread exploitation of the oak forest belt.

Commercial timber harvest is concentrated in the conifer forest ecosystem located in an elevation band of 2,000–3,000 m with some species ranging to 3,300 m (Delattre & Rahmani, 2007). This forest type is dominated by cedar (*Cedrus deodara*), spruce (*Picea smithiana*), pine (*Pinus wallichiana*), fir (*Abies spectabilis*), juniper (*Juniperus excelsa*), and high elevation oak (*Quercus semecarpifolia*). In addition, deciduous *Betula utilis*, and *Populus ciliates* contribute significant canopy cover near tree line. Pine, cedar, and spruce form a co-dominant stratum reaching heights of 25–35 m in an open canopy forest with a primarily grass/shrub understory (Ahmed, Shahid Shaukat, & Faheem Siddiqui, 2011). NRCC found few examples of understory regeneration. Log ring counting by the NRCC determined that most trees, in areas where active harvest was occurring, were aged between 125–160 years. Only a few logs were found to have rings indicating an age less than 100 years or in excess of 200 years. NRCC tree ring counting was limited to specimens located in mills encountered while on foot patrol. No actual coring of standing trees was possible. However, these data may indicate the optimum sized tree for processing and smuggling.

NRCC generated an estimate of the extent and distribution of conifer forest cover in Kunar. It did so synthesizing data from helicopter transect lines, UAV photos, ground-based patrol observations, and topographical map-derived approximations of suitable forest habitat. Based on this process, NRCC estimated that the area assessed contained roughly 1,600 $km^2$ of conifer forest as of July 2010. NRCC's 2010 estimate of conifer forest cover

was in marked contrast to the estimate generated by a USAID contractor in 2009 (NRCC, 2010). The USAID contractor stated that only 189 $km^2$ of conifer forest remained in all of Kunar. NRCC believed that not only was the contractor assertion inaccurate, but that it was most likely a product of fabrication, and promptly reported its concerns to both Task Force Mountain Warrior and USAID. Though the USAID contractor report was consistent with a prior United Nations Environmental Program study (United Nations Environment Programme, 2003), the most scientifically robust investigation regarding timber harvest in the eastern Afghan forests (prior to the NRCC investigation), was conducted by Wildlife Conservation Society, and appears to substantiate the NRCC findings while questioning the United Nations figures on deforestation (Delattre & Rahmani, 2007).

Deodar cedar (*Cedrus deodara*) is by far the most sought after species by clandestine networks and is exported as cants to Pakistan (NRCC, 2010, 2011a). Eventually the product is moved through Karachi to buyers around the world. Timber networks require the involvement of the Afghan government, local warlords, local communities, insurgent groups, and Pakistani officials (NRCC, 2010). In order to ingratiate themselves in local communities, smugglers tend to provide a small volume of timber to local villages free of charge. With this form of informal tax, villagers find additional benefits to cooperation with syndicates

## Network Structure and Operation

The ancient nature of the forest trade permeates every aspect of society in Kunar and does not rely upon modern trappings. For example, the unit of length is defined by two fists connected at the point of outstretched thumbs. Volume is measured as one set of hands, by one set of hands, by one set of hands. The minimum cant size is a volume defined as four standard units. Thus, a typical wood cant measures 8 length units by 1 unit by ½ units for a total volume of 4 cubic units (a cant is approximately 0.11 $m^3$, measuring roughly 2.4 m by 0.30 m by 0.15 m). Timber extraction is a labor intensive process that involves men working with chain saws, manual skidding of logs along corduroy trails to temporary mill stations, transport of cants by donkey train, and eventual border crossings and loading onto trucks to Pakistan destinations. It is a system steeped in tradition, and it successfully cuts across tribal affiliations. Highly formalized, yet unofficial systems also exist for the accounting of money, loans, and security. Timber networks use the Pakistan rupee (PKR) as the exclusive currency of the smuggling business.

From the start of NRCC monitoring operations in February 2010, until November 2010, logging crews typically looked for the biggest and straightest trees with the fewest branches to cut. They tended to avoid cutting small trees because it is not worth the effort, for they would not be paid if a log was less than 1 cant in size. Stands of trees, generally 1 to 3 jeribs (0.2 to

0.8 ha), are harvested in de facto group selection cuts. This permits potential regeneration by natural seed rain from the surrounding trees (typically pine and spruce) as the local stand of cedar is liquidated. The logged area is large enough to allow direct sunlight at the soil surface and the logging activity provides adequate scarification of the ground to create sufficient exposed mineral soil to facilitate germination. Soil erosion is kept low due to the relatively small size of the group selection cuts. However, a series of events put into motion a fundamental change in illegal harvesting practices. Eventually, large-scale clear-cuts, erosion, and other significant ecological disturbances began in January 2011 and continues throughout the region.

Prior to late 2010, smuggling involved a number of actors as the cants moved from Kunar forests to Pakistan. These participants included: (a) landowner; (b) smugglers; (c) accountants; (d) contractors; (e) security teams; (f) wood depot managers; (g) logging crews; and (h) village labor.

The concept of land ownership can be malleable in rural Afghanistan, and it is beyond the scope of this study to examine the complex concept and its multifarious use. Nevertheless, it appears that the term "landowner" is recent and has come to describe people or entities with enforceable claims to a particular area that was once considered the property of the king or the government. A village will "own" a tract of land or have rights to its use by virtue of custom, but will hold no legally identifiable or defendable claim. The same holds true for individual families. This opens the land up for exploitation by people or groups with the power to enforce their claims. The introduction of land redistribution under the communist government, often as a reward for political cooperation, further complicated the issue. These policies have led in part to the present condition where multiple claims for land exist, based on proximity, ethnicity, or verbal agreements.

The smuggler network creates the environment within which the trade operates. Smugglers hire the local labor to physically move the timber. It is the network that establishes connections, negotiates bribes, provides security, and offers a system of agreed upon conditions and processes. A network can accomplish this because it is a social and criminal construct, dominated and enabled by local warlords, and is intertwined with, yet distinct from, both the Afghan government and the insurgency. The network constitutes a parallel and ubiquitous shadow economy that informs and influences most aspects of life in Kunar.

A contractor provides the initial money to purchase timber from a forest landowner and assumes the risk of investment in exchange for the potential to make a profit by selling the wood once it has been transported. He can either be an employee of a vertically integrated network, or, he can be an independent business man who interacts with a network in order to move the timber from the landowner's location to Pakistan.

The accountant is the individual upon whom all depend to keep track of costs, timber, and obligations. Various accountants are involved at different

stages of the operation, from where the trees are logged, transported, and eventually sold.

A typical transaction starts with a contractor making arrangements with a landowner for the timber.Once arrangements have been made with the landowner, the contractor hires crews of about three men per crew to do the logging. A crew with a chainsaw can usually clear two jeribs (0.4 ha) of forest per day. To support the logging crews, the contractor usually provides chain saws and other equipment and pays the men from his own funds. Both the contractor and the landowner inspect the logs and agree to a price after the harvesting has been completed.

After the logs have been canted and are ready for transport, the network becomes involved. A smuggling crew provides for the physical transport of the wood and security. Security can take the form of armed men who accompany the wood or a standing force separate from the transport, to ensure retribution if the network is interfered with. The most common approach is the latter, as the network is usually secure enough that persistent armed security is unnecessary. Wood and guns seldom travel together. However, disputes between networks do occasionally flare up and can escalate into open hostilities. The primary networks can field several hundred armed personnel if need be.

Wood cants are then stored along the route at depots called *hadas* trusted by the smuggler and protected by network assets. *Hada* operators are paid a uniform 40 PKR (Pakistan rupee) per wood cant. The price is the same, regardless of how long the wood remains stored at the *hada*. Wood can stay at a *hada* for as long as two years before being moved. There is a trust bond among the network, contractor, and *hada* operator that allows for late payments, lost wood, etc. Local villagers often obtain wood free from the *hada* in order for the *hada* to remain socially accepted. The contractor understands this and does not demand payment for cants that are given for use in the village.

Throughout the process of physically moving the illegal timber to the Afghanistan border with Pakistan, there is an accountant present. This accountant may be the smuggler's accountant, who accompanies the product between the *hadas*, or it may be the *hada* accountant, or it may be the contractor's accountant ensuring enforcement of the original terms. The accountants handle the actual transactions, because the other operators in the chain are frequently illiterate and thus unable to interpret the necessary ledgers and associated documents. This system also provides the smugglers and contractors with an added layer of security, as neither party is ever in physical contact with the illicit wood on the smuggling routes.

The accountant serves on a monthly retainer. He also usually receives a portion of the proceeds depending upon the size of the job, the level of expertise required, the duration of the project, and the amount harvested. An accountant can only have one client at a time. While it is the network

which distributes payments to the various government officials, competing war lords, and insurgents, the prices and arrangements are typically arrived at by negotiation between the network and contractors through the accountants. The accountant makes deals for the labor, makes sure the crews are paid and fed, and helps arrange prices at the end market. The accountant also makes contact with the other accountants down range within the chain. Each contractor will typically have three accountants: one for harvest operations, one for transport, and one for marketing.

The wood cants are branded to represent a specific contract between a contractor and the network. A particular brand is reused only if the first contract is fulfilled and a sufficient period of time has elapsed so as to avoid confusion. Brands are modified slightly with the same general design for ease of identification to indicate the contractor or network. It is this method by which the contractor, network, and land owner can keep track of property in the depots and to the agreed upon terms.

Previously, it was thought that the brand represented either a "tax" receipt showing that a particular strongman had been paid to permit passage, or that it represented either a particular contractor or a specific landowner. Compounding the complexity is the fact that small operations often cannot use a single network, and multiple contracts are needed to move each cant. Thus, a single piece of wood can have up to three different brands (though that would indicate a series of weak contractors within a network).

After an undetermined period of time, the smuggler returns to retrieve the timber, which is broken up into smaller bundles and loaded onto donkeys for the journey into the mountains along the Pakistani border. While the smuggler manages the logistics behind the physical transport of the timber, the contractor makes his way to Peshawar via Jalalabad. In Peshawar, the contractor arranges for letters of transit provided by Pakistani government officials, which he then hands over to a Pakistani driver/contact. There is no further interference in the trade on the part of Pakistani officials once the initial papers have been acquired in Peshawar. Also, as a general rule, the Pakistani Taliban do not interfere with timber exports from Afghanistan. During the entire process, the contractor is never in physical proximity to the actual timber once in transit.

The contractor must arrange for a permit to import the wood into Pakistan. This is usually accomplished through a Pakistani permit broker that bundles the permits in quantities of 150 cants for each permit. The permit broker, with whom the contractor interacts, is the go-between at this stage with the Pakistan government. It is unclear whether these officials represent Pakistani government policy or are simply members of a criminal conspiracy. It is equally unclear as to which agency these officials ultimately report. Whatever their origin, the letters of transit are easily procured and once acquired, the load of timber waiting at the border becomes a legal commodity within the confines of Pakistan. At this stage the wood benefits the Pakistani government through the normal lawful tax structure.

After the wood arrives safely in Pakistan, the contractor arranges a price for the wood with a buyer. Finally, the contractor pays the landowner for wood sold at an agreed price; and the contractor keeps the rest. While in Pakistan, timber movement takes place in areas with at least nominal government control, and the trade is facilitated by government officials. The documents sold in Peshawar by brokers are absolutely necessary for the unhindered movement of timber within Pakistan. The authors are aware of only one organization within the Pakistani government with the wherewithal to influence timber trade in this chaotic region, and that is the Directorate for Inter-Services Intelligence (ISI).

In summary, the stronger the contractor the more steps the contractor performs himself. A strong contractor, working within a powerful network, can afford the ability to be the sole source of the wood from the moment it is cut, to when it is sold in Pakistan. Weaker contractors must sell the wood to a subsequent contractor who then takes possession of the cant and paints his contract brand over the other contract brand. The less powerful contractors must sell out some steps, particularly the transit and the selling in Pakistan. If these smaller contractors do not cooperate with established networks, their work crews may be kidnapped for ransom.

## Network Routes

There are three principal routes in Kunar by which wood is moved to Pakistan. These routes move timber through the Shaunkrai, Binshai, and Nawa passes. Prior to this investigation, it was believed that illicit timber was smuggled via a complex web of multiple trail routes so as to avoid detection and that the entire trade was controlled by insurgent groups. This was found to be inaccurate on both counts prior to late 2010. The institutionalization of timber smuggling had reached a point of acceptance by the end of 2009 that it was no longer necessary to engage in furtive movement.

The most heavily used route was that controlled by Haji Jan Daad. Timber commonly moves through the Barabat check point where a toll is paid. The timber is then smuggled to Pakistan via the Shaunkrai Pass in southern Kunar.

The most desirable route for contractors, though not necessarily the most frequently used, is in northern Kunar in an area formerly controlled by Malik Zarin, before his assassination. This network transits through the Binshai Pass. Zarin's network was most preferred because it provided better security, provided more certainty in fee price, and ensured greater likelihood of the product arriving in Pakistan quickly.

A third route traverses Marawara and Sarkani districts through the Nawa pass. This network is utilized primarily by smaller contractors and several insurgent affiliated networks.

Once the wood arrives on the Pakistan side, it is destined to Pinde, Lahore, and Peshawar, eventually making it through Karachi to the Gulf

States (the primary destinations being located within the UAE of Dubai and Ras al-Khaimah). NRCC has been able to successfully bid on clandestine Internet auctions for Afghan cedar and arrange shipment from companies operating out of Karachi. Thus, the Karachi expediters that Afghan smugglers have alluded to have been confirmed as an integral component of the internationalization of the cedar trade from Afghanistan.

The benefits of a powerful network are that the organization enforces norms of behavior, ensures stability and certainty, and provides security and contacts. Otherwise, there is considerable strife among competing contractors that has nothing to do with political or ideological conflict. Whoever keeps the timber industry working, "*have the people's hearts . . . and their guns.*"

## Network Economics

The wages paid to the various actors (not counting contractors, accountants, and landowners) within the trade appear fairly consistent, regardless of the network. Fees charged by the network, *hada*, and loggers are fixed, regardless of the species of wood transported or its value on the Pakistan market.

Loggers are paid 350 PKR for each cant of wood (this is roughly \$33 $m^{-3}$ at an exchange rate of 95 rupees to the dollar). The payment is made to the crew as a group to be divided among its members. Not only is the payment the same regardless of the species of timber, it is made regardless of wood quality (in terms of knots, blemishes, etc.). However, if there are too many imperfections in the cant, then the entire piece is rejected and no payment made.

Security members receive between 10,000–12,000 PKR (\$116 U.S.) per month. Most if not all security are hired from local villages. Networks routinely use and pay for the same men from villages that are trusted. Those involved in the physical transport of the wood on behalf of the network are paid by the contractor at about 100 to 150 PKR per cant transported (\$12 $m^{-3}$), depending upon the length of time the wood is in their responsibility. As mentioned previously, the wood depot operators tend to receive about 40 PKR per cant (\$4 $m^{-3}$).

The different routes tend to have different "fees" associated with passage. When working with a network, a contractor need only make one payment. All bribes and arrangements are consequently addressed by the network and the contractor is not engaged. The contract mark (timber brand), announces the arrangement to all involved thereby immunizing the contractor from having to pay additional fees from free lancing corrupt officials, criminal enterprises, and insurgents.

When under his command, the Zarin network charged approximately 3500 PKR for a cant of wood (\$335 $m^{-3}$). The southern Daad network charged fees of about 2250 PKR for an equal amount of wood (\$215 $m^{-3}$).

The more centrally located Nawa Pass route, which offers less success in moving cants, averaged about 2,500 PKR for the same volume of timber ($260 $m^{-3}$).

Permits issued in Pakistan to legalize the timber are sold to the contractor for about 75,000 PKR per bundle of 150 cants. This represents an additional fee of approximately $47 $m^{-3}$. The permit broker pays a price of about 50,000 PKR ($32$m^{-3}$) to the Pakistani official and keeps the remainder.

In Pakistan, Deodar cedar can be sold by the contractor for between 11,000 PKR for a cant if the wood is of good or excellent quality. Lower quality cedar is sold for 8,000 PKR. This translates to about an average price of $900 $m^{-3}$ for cedar, which is considerably higher than the $660 $m^{-3}$ which can be obtained in the Afghanistan's domestic markets (NRCC, 2010). Little or no pine or spruce is exported to Pakistan. As was mentioned earlier, the logger, smuggler, wood depot operators, permit brokers, and networks are all paid by the cant, regardless of wood species; consequently, it would make little sense to attempt to smuggle these lower value species.

Before it was criminalized in 2006, about 50% of the southern Kunar timber harvest was sold internally within Afghanistan. Today, more than 95% of all harvest is exported to Pakistan. This figure is consistent with other research on the timber trade (Wingard, Karlstetter, Simms, & Johnson, 2008).

As a result of the comingling influences of culture, tradition, and economic necessity, local communities are active and willing participants in the commercial timber trade. The networks are major employers in the community for security, labor (cutting and smuggling), donkey handling, and wood depots. Networks, through the *hada* operator, supply needed construction materials to the community. Fuelwood, harvested on behalf of the village by logging crews associated with networks, provide a reliable supply for heating and cooking fuel that would otherwise be an arduous undertaking by hand.

Traditionally, these communities have always been timber dependent. As a singular source of high quality wood in an area where there is a dearth of forest, Kunar residents and Nuristanis built a tradition of logging and wood working. The networks serve to re-enforce self-image and cultural norms of hardy and independent woodsmen. Efforts to shut down the timber trade are viewed as economically threatening and a predatory attack by a distant government, which in turn only further undermines the authority of the state.

## Corruption and the Timber Trade

During the civil war and the subsequent Taliban rule, much of the timber trade was internationalized, denying local communities access to profit from the business. It was at this time that the rate of logging increased significantly. It is suspected, but not confirmed, that the Taliban-controlled government (1996–2001) attempted to harvest large areas of forest in order to generate quick influxes of hard currency. As a result of ties to Pakistan during the civil

war, it seems that the Taliban turned to Pakistani associates as the primary coordinators of timber trade. Indeed, local reporting has indicated that logging crews at that time were composed primarily of Pakistani labor. Power of local communities to control the forest resources in their vicinity was greatly diminished by Taliban rule.

With the ouster of the Taliban government by Coalition Forces, the timber trade passed to local warlords and the industry began to consolidate by a variety of means, including violence. The timber industry, though banned by multiple legal instruments, thrived after the Taliban with quasi-government recognition through various corrupt government officials and Afghan National Security Forces.

Thus, the logging prohibition, in place from 2006 until 2011, criminalized a necessity, forcing villagers into a system of corruption (Ministry of Agriculture, Irrigation and Livestock [MAIL], 2006, p. 7). The situation created a power imbalance whereby average villagers tolerated and participated in criminal syndicates in order to have access to a commodity without which the people could not survive. The ban and its selective enforcement served to prevent market entry by new actors and thereby re-enforced the regional monopolies enjoyed by the networks and warlords.

The NRCC investigation found that prior to late 2010, the primary timber smuggling networks were dominated by local warlords that bribed and coerced the Afghan government security apparatus and civilian government. Afghan government-affiliated individuals and institutions permeated every aspect of the smuggling trade as elements subjugated to the networks. Afghan government elements and the networks were inextricably intertwined in the timber trade. Active interdiction, when carried out by Coalition Forces, served only to alienate both the local populace and Afghan government officials.

## Timber Exploitation and the Insurgency

The salient feature of the timber trade as it was practiced in Kunar between 2002 and 2010, was that the primary actors were affiliated with warlords and corrupt government officials rather than insurgent organizations. This is not to say that there was not significant involvement by insurgent elements. The interesting factor was that the smuggling enterprise demanded cooperation among all the components of Kunar society—including competing political, theological, and tribal groups. The success of the timber smuggling networks created a sort of enforced collaboration, transcending friction points and enabling tribal and politically antagonistic entities to cooperate. Thus, insurgent organizations freely coordinated with corrupt Afghan government officials, local warlords, village elders, and Pakistan government intelligence services in order to gain revenue from harvesting timber.

In Kunar, there was one region that exhibited the rare dominance of insurgents in the timber business. This was the Narang-Shuryak Valleys complex. Within the Narang Valley, insurgents created their own vertically integrated timber exploitation and export network. This was possible because of the circumstance that the forest landowners and contractors in the valley were insurgent officers. In addition, local community support for insurgent activities was quite high in both the Narang and Shuryak valleys. As a consequence, insurgent operators were able to monopolize the harvest and transport of the lucrative timber smuggling trade within this area. Taken as a whole, whether directly in control or acting as collaborators, the NRCC estimated that, prior to the end of 2010, the insurgent share in timber revenues did not exceed 20% of the total trade in Kunar.

## Shift in Smuggling Operations to the Insurgency

Commencing in November 2010 however, the NRCC observed insurgent roles grow rapidly. Accompanying the change in insurgent influence was a rapid acceleration of clear-cut harvesting on a massive scale, in contrast to previously observed practices. It is believed that the insurgent effort to dominate the timber trade in Kunar began as a deliberate operation to liquidate valuable forests in order to obtain revenue to procure ordnance, men, and other supplies in anticipation of the 2011 and 2012 fighting seasons.

A number of factors contributed to creating the conditions necessary to allow this change to occur. These factors were: (a) the Afghan government changed the national timber law, suspending the timber sale ban for stockpiled wood, thus creating a legal domestic timber market for the first time since 2006; (b) low snowfall in early and mid-winter permitted movement in forested areas and access through mountain passes between Pakistan and Afghanistan that were normally closed at that time; (c) the insurgent assassination of Malik Zarin and the declining influence of Haji Jan Daad; and (d) need by insurgent elements to replenish ordnance seized or destroyed by successful coalition operations.

According to the U.S. Department of State, the Afghan government issued Decree 5306 which created a partial lifting of the ban on the sale of timber in certain parts of Afghanistan, including all of Kunar Province. The decree allowed the sale of timber that had been cut prior to 2006, had been inventoried, and was held in government inspected stockpiles (NRCC, 2011a). Under the decree, export of Afghan wood to foreign states was still prohibited. The measure was originally intended to last six months, but was later extended through 2011. The change in law resulted in the desired effect of drawing down the timber stockpile prior to the loss of that wood through weathering, fire, and other damaging exposures, as well as creating an important source of government revenue.

However, according to Afghan sources involved in timber trade, the decree sparked increased illegal logging and timber exports under the subterfuge of the legal framework. In the course of the NRCC investigation, all participants in smuggling expressed a consistent observation that the Afghan government lacked both the capacity and the will to exercise effective monitoring, taxation, and control of the movement of wood within its borders and to ensure conformance with the provisions of the decree.

Interestingly, with the legalization of wood and the tax imposed, the price for cedar in domestic Afghan markets such as Jalalabad increased between July 2010 and March 2011, from \$680 to \$748 $m^{-3}$ based upon prices as determined from a survey of local markets (NRCC, 2011a). The rise in price may suggest that far from ameliorating the lumber shortage in communities, the timber law may have increased the demand and market for all wood products. A similar increase was observed for domestic sales of pine, spruce and poplar.

Commensurate with the incentive for increased illegal logging, made possible by the decree and lack of government enforcement, the impact of low snow accumulation above 2,000 m in the mountains during early and mid-winter allowed for forest harvest and related movement to continue and enabled transit of mountain passes by donkey into February 2011, when heavy snows finally blanketed the Province. Mild weather extending the work season coincided with the insurgent need for resupply, which may have contributed to insurgent elements capitalizing on the situation to seize and control timber operations.

The ability of insurgent actors to increase involvement in timber harvest and trade since November 2010 has been concurrent with a decline in command and control over timber networks by both Malik Zarin, in northern Kunar, and Haji Jan Daad in the southern portion of the Province. The original reasons for the withdrawal of Zarin and Daad from active control are not well understood, and may be a combination of various factors including a desire to invest financial assets into different enterprises, intimidation by insurgents as they moved into remote areas during Coalition force realignment in 2010, or pressures from other competing criminal timber smuggling networks. Following Zarin's assassination, his network disintegrated, with parts being taken over and absorbed into organizations more closely allied with insurgent elements associated with Pakistani entities.

As further evidence of a major shift in control, the NRCC was able to confirm changes in the infrastructure supporting the transport of wood through central and southern Kunar. These changes included shifts in the locations of *badas*, donkey corrals, and radical changes in movement patterns. NRCC documented initial violent resistance by local communities to insurgent attempts to usurp the timber trade, particularly when insurgent groups were heavily assisted by Pakistan-based groups. Disputes also arose among smaller smuggling operators seeking to expand their share of the

trade as the established networks contracted. In areas now controlled by insurgent operations, clear-cutting, (resulting in the complete removal of trees regardless of species, age, or value), became common practice.

In order to obtain confirmation of the change in harvest practices, NRCC conducted an additional aerial reconnaissance in January 2011 within Kunar of sites previously inspected by the NRCC. The assessment found extensive clear-cuts, each exceeding 150 ha. All species of timber were removed within these areas. Indeed, within one 4 km by 8 km study grid, an estimated 500 ha had been cleared. Many areas of standing forest observed in 2010 were now completely liquidated.

Interviews with local residents and smugglers revealed that the new insurgent-based networks not only provided lumber to villages, but also cut and delivered large quantities of fuelwood to the inhabitants. The pattern of 100% stem removal lends credence to the assertion. The logging crews, using modern chain saws and other mechanical equipment, harvest all trees, regardless of size. Commercial cedar is exported to Pakistan. Pine, spruce, and fir are sawed for structural lumber. All small trees, and every oak, regardless of species, are cut for fuelwood. Wood, not given to villagers, is sold in urban markets throughout eastern Afghanistan and Kabul. By offering local communities greater access to wood resources, insurgents have increased the immediate benefit to communities at the detriment of long-term sustainability. Even if these communities opposed the insurgent operations, they would be powerless under the hegemony now enjoyed by the insurgent operations. The degree to which local labor is hired for operations, and the attendant cash wages paid into the communities by insurgent networks, is unknown, as is the degree to which the labor is performed by insurgents themselves.

Several stockpiles of commercial-sized cants of fresh hewn *Cedrus deodar* were found in every village within the 2011 aerial reconnaissance. These stockpiles, which averaged between 10 and 40 $m^3$ in volume, represent a gross value of between 9,000 and $36,000 per stockpile. The gross value of all local stockpiles of commercial sized cants, observed during the single "point in time" of this one over-flight, was estimated at approximately $100,000.

Another important change was the prevalence of construction sized lumber stacked at many houses in nearly every village photographed during the flight. In addition, extensive dumps of construction-sized timbers were strewn from steep hill sides along roads and trails. It is reasonable to interpret this observation as an insurgent propaganda and community support campaign. Such a widespread, nearly equitable, and ubiquitous distribution of lumber to communities demonstrated far greater largesse than that practiced by the previous timber war lords. Indeed, the NRCC counted close to 40% of buildings in observed communities having newly constructed roofs, structural additions, and out buildings. Construction at this level of intensity is in marked contrast to that which had been observed on previous over-flights.

There appears to be little doubt that since November 2010, a much more substantial flow of valuable wood has been received in local communities in comparison to previous years.

Finally, the NRCC observed considerable infrastructure investment and development for timber exploitation that exceeded previous observations. These include portable saw mills, bucking sites, roads, and corduroy skid trails.

Whereas the role of illegal timber harvest and smuggling was not a primary source of insurgent revenue prior to the autumn of 2010, it now seems reasonable that by March 2011 timber liquidation had assumed a central role in locally derived insurgent funding with the period of most rapid change having occurred between early November 2010 and mid-January 2011. International demand for Afghan cedar seems to expand with the supply as the price at Karachi auctions for *Cedrus deodara* remains at about \$900 $m^{-3}$. This suggests that there is not a reduction in price as harvest volumes increase, thus bringing a measure of predictability for insurgent operations intent on using forest resources as a source of revenue.

## NRCC Efforts to Disrupt Insurgent Timber Networks

Significant lessons have been learned by the United States in its counterinsurgency (COIN) approaches during the past century from the Philippine Insurrection of 1899–1902 (Linn, 1989), through the Morro War 1903–1913 (Fulton, 2009; Arnold, 2011), Vietnam War 1965–1973 (Nagle, 2005; Moyar, 1997), El Salvador Civil War 1983–1992 (Moyar 2009), and the second Iraq War 2003–2011 (Moyar, 2009; Stephenson, 2007), to the current conflict in Afghanistan. COIN strategy and tactics necessarily involves a coordinated use of both lethal and socioeconomic development activities (Kilcullen, 2010; U.S. Army, 2007). These lessons have immediate implications for thwarting natural resources exploitation in insurgent and guerrilla war scenarios, including the use of timber in Afghanistan.

Just prior to its dissolution, the NRCC developed a complex and highly detailed set of 30 elements for effective denial of insurgent access to timber, while promoting peaceful, local community engagement and self-empowerment. These points can be summarized as four general principles.

First, the bulwark of successful COIN is a strong and self-reliant community. It is the local village or neighborhood leadership, not national movement elites or the angry foot soldiers, who are the key to deflating insurgency. Effective COIN approaches necessitates undermining insurgents by outcompeting them for the recruitment of the mid-level, local leadership through offering a more compelling narrative than that of the insurgent effort. Accomplishing this requires an in-depth understanding of the motivations of locally respected individuals for joining armed groups. This typically involves developing a non-lethal program that allows a person to contribute

to his/her community in a manner that is both locally and culturally appropriate to better both himself and his locale. Inducements of money, or offers of employment, seldom counteract an insurgency. The message and means must be an inspiring alternative that lifts the hearts of men, rather than an attempt to buy a man's soul. Simply alleviating poverty, or improving education, cannot enervate insurgent activity (USAID, 2010; Berman, Felter, Shapiro, & Callen, 2010). This means that the non-lethal, socioeconomic development component of a COIN effort must be inherently indigenous in design, control, investment, maintenance, and result. It cannot be foreign led.

Second, COIN programs must be decentralized. This requires a great degree of adaptability to very local conditions as well as the ability to respond quickly to fine tune efforts under evolving conditions. It recognizes that various local leaders will have different reasons for aligning with an insurgency, in which grievances and goals are as varied as the individuals within a militant group. To the extent practicable, local custom and leadership systems should remain intact, without exogenous interference. This point necessarily requires a level of tolerance for values and ideals which are different from those held by the host country and its allied forces engaged in COIN. Acquiescence to indigenous control over salient elements of COIN operations is both essential and difficult. However, unless a foreign power engaged in COIN is willing to do just that, the necessary decentralization and flexibility will be lost.

Third, successful COIN simultaneously coordinates both inducement and punishment. Lethal and socioeconomic development activities must simultaneously occur in a coordinated and re-enforcing manner. Collective community reward in the form of socioeconomic investment such as schools, health clinics, roads, and improved water quality and sanitation must be offered only to those communities that have chosen to actively participate in the COIN program. These rewards must be transparent and consistently applied, as well as rapid. Likewise, collective community punishment, in the form of withheld or cancelled development projects, must be applied to those communities that, for whatever reason, have chosen not to engage in interdiction of insurgents. This collective punishment, for failing to oppose insurgent operations must also be transparent, decisive, and in quick response.

The fourth key to the success of COIN involves a kinetic component, that is, the lethal use of force. Such operations require specially trained elements that maintain a local and prolonged presence in communities so as to gain essential familiarity with the human, physical, and tactical terrain. It is critically important that military elements avoid a garrison mentality. COIN forces must engage in a manner that maximizes constant, varied, and disruptive movement. It is seldom a pitched battle that defeats the guerrilla. Rather, the most effective tactic tends to be constant harassment that disrupts insurgent activity before it can be organized.

NRCC believed that the individual guerrilla fighter is irrelevant in this guerrilla war. As Mao Tse-Tung stated in *On Guerrilla Warfare*, "a guerrilla can always sink back into the peaceful population which is the sea in which the guerrilla swims like a fish" (Tse-Tung 1937/1961). While this maxim applies universally, it is a particularly trenchant one for eastern Afghanistan, if not the country as a whole. Afghan government colleagues at the Ministry of Rural Rehabilitation and Development (MRRD), among other local contacts, unanimously echoed this point when they emphasized that the individual's role and place in rural society is fundamentally tied to community. Young men in Afghanistan achieve status, self-worth, and promotion only through the social context of their communities. This is the "social man" that sets the direction and characteristics of a community.

NRCC sought to empower existing local social institutions, which, in and of itself, undermined the insurgent timber operations. Once villages saw the combination of benefits for their respected young men that accrued from participation in NRCC operations (watershed rehabilitation through manually constructed terraces, check dams, water bars, and tree planting), these communities effectively applied traditional coercive social mechanisms, such as ostracism, against those individuals whose behaviors threatened the corporate whole. Within the larger COIN framework, NRCC attempted to dry the river in which the guerrilla swims.

NRCC field data, consistent with recently published scientific and public policy findings (Meyerle, Katt, & Gravilis, 2010; Paul, Clarke, & Grill, 2010; Davis & Cragin, 2009), found that among those destined to become leaders in insurgency, the desire for material well-being was not a primary motivation. Rather, NRCC data discovered that the chief motivation for participation in insurgent networks among this select group of young men in Afghanistan was some combination of:

1. desire to protect the local community from alien influences;
2. theocratic motivations; and
3. obligation due to some prior association based upon family, group, or individual.

Thus, it was determined by NRCC that those COIN programs that focus solely upon income generation or short-term job creation do little to deter the recruitment of potential leaders into the insurgency. NRCC research did not address whether "cash-for-work" programs for deterring recruitment of lower level insurgent soldiers from among the ranks of the poor, was effective.

Finally, the on-the-job apprenticeship methods used by NRCC, were taken directly from the recommendations articulated by USAID in its retrospective analysis of development assistance to Afghanistan (Williams, Kean, Jenkins, Feldman, & Fisher-Harris, 1988). Williams et al. (1988) found "on-the-job" apprenticeships for semi-skilled positions produced results far

superior to those achieved through formal vocational education, and could be accomplished at a lower cost.

At the time the NRCC was disbanded, it had developed and was in the process implementing, each of these four general principles in coordination with Counterinsurgency Advisory and Assistance Teams (CAAT) and Special Forces (SF) Village Stability Operations (VSO). The primary unclassified programs included: (a) a database of timber network brands, identifying network operations and contracts; (b) simple and effective means of identifying illegally smuggled cants with a wood moisture meter; (c) mentoring combat patrols in improved community engagement; and (d) implementing an apprenticeship oriented watershed rehabilitation program.

NRCC accompanied platoon combat patrols from a variety of combat outposts (COP) in order to find and document *hadas* with stockpiled cants for the purpose of identifying and deciphering smuggling networks by contract brand. As a result of this effort, NRCC built a photo library of 150 different contract brands from the Narang, Chowkay, and Pech districts of Kunar Province. It became evident that each contractor utilized a system of marks similar in appearance (though distinct) as a form of brand to indicate control of the wood they were moving. Because these contractors were using variants along a similar themed design, it became possible to distill the brand information and identify at least 10 principal contractors operating in these areas. This fact permitted coalition troops and Afghan police forces to track the influence of various contractors within specific geographic areas simply by estimating the proportion of illegal wood ascribed to a particular contractor based upon contract brand markings.

NRCC sought to develop a quick, accurate, inexpensive, and simple method by which timber shipments could be evaluated for legality as they traveled the stream of Afghanistan commerce. Such a method needed to neither destroy the timber tested nor significantly intrude upon the activities of the transporters, lumberyard owners, or government officials in whose custody the subject wood may be found. Wood moisture content appeared to hold the greatest promise as an indicator of wood legal status. A cursory test using meters (oven-dry weight) found that wood moisture content of 25% or lower was achieved within a maximum of 240 days for stacked *Cedrus deodara*, regardless of time of the season the wood was stacked using wood and weather data from Forward Operating Bases (FOBs) Blessing, Bostick, and Wright in conifer rich valleys. In addition, NRCC estimated a *Cedrus deodara* density of 528 kg $m^{-3}$ and a fresh cut green moisture content of 58%. This is consistent with other findings—i.e., Sharm, Sankhayan, and Hofstad (2008) and Hidayat and Simpson (1994). As a result, a standard of 25% wood moisture content was assumed to conservatively identify illegal wood. Wood that was harvested and stockpiled prior to the 2006 ban (which is the only wood that can be legally sold) was presumed to have a stabilized air dry moisture content of 18–20%. Unfortunately, before this approach was implemented,

the NRCC was disbanded. As a consequence, no further efforts were made to investigate an objective and quantitative method for ascertaining the legality of wood sales in eastern Afghanistan after 2011.

Patrols from small COPs were accompanied by NRCC and evaluated for effectiveness in interactions with local residents from a non-lethal COIN perspective. Thus, military officers were informally evaluated in their interactions with villagers in timber dependent valleys to ascertain effectiveness. Feedback was promptly provided in after action reviews that emphasized integrating traditional community engagement techniques to reduce local antagonisms.

The NRCC watershed rehabilitation apprenticeship program, within its first 6 months, manually built 2,290 stone erosion control check dams and 59,494 m of conservation terrace throughout 16 violent districts with about 300 men (Kock, 2012). Average construction cost per check dam remained under $80 (U.S.) per dam and about $2 (U.S.) for each meter of terrace (Kock, 2012). Speed of construction for these structures exceeded that of more traditional USAID and the DoD Commanders Emergency Response Program (CERP) programs at a mere fraction of the cost. Military civil affairs personnel estimated that the NRCC program created dams at a rate 40 times faster at a cost of about 5% that of traditional development programs in Afghanistan (NRCC, 2011b). The productivity of this program is an indication of community participation, support, and value. Before an NRCC apprenticeship team could form in a community, the local population had to agree to supply daily security and logistics for its sons in the program. In addition, the local leaders had to demonstrate a willingness and ability to both protect the structures from insurgent attack and to maintain them once they were built. The degree to which insurgent recruitment of mid-level leaders diminished in villages where the apprenticeship program was implemented is unknown because the NRCC was disbanded prior to an assessment.

## SUMMARY AND CONCLUSIONS

The NRCC study made a number of key findings: (a) the timber trade is a complex web involving Afghan government, insurgent, and criminal elements interacting together; (b) the comingling influences of culture, tradition, and economic necessity, have made active and willing participants of local communities in the illegal commercial timber trade; (c) active interdiction and smuggling disruption by international coalition operations alienates local populations; (d) the illegal timber trade poses a direct threat to successful COIN operations by the allied coalition; and (e) the disturbance to natural forest ecosystems in Afghanistan is increasing.

It is difficult to ascertain the effectiveness of the unclassified NRCC programs described herein regarding the effort to disrupt insurgent exploitation

of timber as a means to support militant operations in eastern Afghanistan. The complex interaction of military operations, traditional international development programming by coalition partners, and internal insurgent dynamics create a milieu within which it is nearly impossible to divine cause and effect. That said, it cannot be denied that insurgent control of and reliance upon timber as a weapon increased markedly during the period that the NRCC was in existence. It must also be noted that just as most of the unclassified NRCC projects were coming online, the NRCC was disbanded and the majority of its programming terminated. Anecdotal reporting from Counterinsurgency Advisory and Assistance Teams and the Special Forces Village Stability Operations personnel, however, indicated that NRCC operations directly confronted insurgent organizing efforts in communities and was valued as a force multiplier.

Perhaps the most useful outcome from NRCC is the detailed description of timber smuggling networks and the relationship to communities, as well as the finding that economic development cannot, in and of itself, reduce insurgent abilities to recruit leadership from impoverished communities. This description identifies the linkages in, with, and among communities that thwart the notion of interdiction alone as a mechanism to combat illegal timber exploitation operations in a wartime context. Indeed, removal or replacement of local centers of power—whether it is a national government, local warlord, or international insurgent and terrorist organization—has little impact on the illegal activity. This is true to the extent that the exigencies of the power center dictated the type and degree of environmental disturbance.

NRCC experience indicates that the primary motivation within the leadership of a community (which drives insurgent behavior, economic decision making, or reconciliation) is grounded within a narrative of community contribution. Therefore, international efforts to quell illegal natural resource exploitation must offer a counternarrative that induces emerging leaders into behavior perceived by the leaders themselves as contributing more productively, in a locally acceptable fashion, than the activities deemed as threats to U.S. national security.

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